ANCIENT SKIES

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OUR MAYAN ANCESTORS

BY MAURICE CHATELAIN*

I have three favorite theories that, if proven, would help to explain many great mysteries of the past. First, that tens of thousands of years ago our ancestors possessed amazingly precise scientific knowledge, especially in astronomy and mathematics. But if we accept the official scientific views of today, such advanced knowledge was quite impossible, because at that time man barely knew how to make a crude flint ax and had not even invented the wheel.

The second theory states that this astounding knowledge was given to mankind by extraterrestrial voyagers-astronauts who came from outer space,with a much higher civilization and culture, and that little by little, these astronauts created modern man by insemination and mutation.

The third theory states that this unbelievably high scientific knowledge of our ancestors, as well as their religious beliefs and their social customs, almost identical in all four corners of the Earth, had to come from one common source that in relatively recent times seemed to have been situated somewhere in the middle of the Atlantic, but in a more distant past, in the Pacific. These centers disappeared without a trace in cosmic cataclysms, leaving only distant memories, inherited from a few survivors, which were reflected in ceremonies, sagas, and some sacred texts.

As recently as the mid-1950s, one could question and dismiss such theories as incredible, but since that time we have walked on the moon and driven a jeep on its surface and our space probes have photographed at low altitudes the surfaces of Mars and Mercury and our space probes are going to the outer reaches of the solar system. The hypothesis that our ancestors were visited from space by extraterrestrial beings no longer seems so impossible. Indeed, it now seems very logical. A few more years and a few more space explorations from now, our children will wonder why such theories seemed so implausible to previous generations.

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In my book,Our Ancestors Came from Outer Space,** I tried to prove the accuracy of these theories by using numbers, even though I know that many people dislike numbers and figures. From Sumer to Tiahuanaco and sites in between, I applied mathematics and astronomy to the mythological, historical and archaeological knowledge of these mysteries to prove that astronauts from another world came to Earth to create, educate and civilize a new human race "in their own image."

In this article I will discuss the astronomical and chronological knowledge of our Mayan ancestors, which proves that the scientific knowledge of astronomy shown by our ancestors tens of thousands of years ago was far superior to that of astronomers only 300 years ago.

The chronology of the ancient Mayas, who were living in Mexico several thousand years ago, probably was the most sophisticated that ever existed. They had weeks of thirteen days and months of twenty days. And in addition to the solar year, which they had correctly estimated to be 365.242 days, they had computed years of 260, 360, 364, and 365 days, as well as twenty-year cycles, called Katuns, of 7182, 7200, 7254 and 7280 days, which were all used in different places and at different times. They also had several cycles of 5200 years representing 13 Baktuns, or 260 Katuns, whose duration could be 1,867,320, 1,872,000, 1,886,040, or 1,892,800 days, and corresponding to great astronomical cycles.

Some may wonder why Mayan astronomers had used a sacred year of 260 days representing twenty weeks of thirteen days, or thirteen months of twenty days, but there were several good reasons for that. First, in the south of Mexico where the first Mayas were living, the Sun is at the zenith 260 days apart, on 13 August and 30 April. Then two of these years represent three eclipse cycles and three of them correspond to the synodic cycle of Mars of 780 days. And finally, most Mayan calendars were exact multiples of 260 days.

For example, there was a short calendar of 37,960 days which represented 104 years of 365 days, 65 Venus cycles of 584 days, and 48 2/3 Mars cycles of 780 days. That simple calendar was too short by 25 days to coincide with the Sun, but it was only three days too long for Mars or five days for Venus.

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**Our Ancestors Came from Outer Space was first published in French in 1975 by Ed. Robert Laffont. The English edition was published in hardcover in 1977 by Doubleday & Company and then in paperback by Dell Publishing Co. The book is a classic in the ancient astronaut field and is must reading for all serious students of the subject. One of eight books by the author in the field in French, it is the only one published in English.

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As a matter of fact, Egyptian astronomers had a similar but longer calendar where Venus cycles of 584 days coincided with years of 365 or 365 1/4 days.

Mayan astronomers also had two great calendars of 5125 and 5164 years, the first one being based on the conjunctions of Mercury, Venus and Mars, while the second one was based on those of Mars, Jupiter and Saturn. The calendar of 5125 years represented 260 Katuns of 7200 days each,or 1,872,000 days, as well as even numbers of Mars cycles or Mercury and Venus conjunctions. That calendar seems to have started on 6 September -3113, which was the day 584,283 in the Julian calendar.It should therefore come to an end on 21 December 2012, which will be the Julian day 2,456,283.

The starting date of 6 September -3113 is indicated by two inscriptions discovered in the Temple of the Sun at Palenque in Mexico.The first inscription tells us that a great conjunction of Jupiter was observed on the day 1,388,996 which was in the year 690 of our calendar. We know that such a conjunction of Mars, Jupiter, and Saturn occurred on 18 July 690, Julian day 1,973,279. The difference between these two numbers tells us that the Mayan calendar of 5125 years started on the Julian day 584,283 which was 6 September -3113. Triple conjunctions of these planets can only happen every 516 years after an average of 188,604 days, which is one-tenth of the calendar of 5164 years.

The second inscription at Palenque tells us that an heliacal rising of Jupiter, which is its first apparition on the right of the Sun after its conjunction with it, had been observed on the Mayan day 192,462 and another one on the Mayan day 275, 055. And effectively, that phenomenon occurred on 12 August -2586, Julian day 776,745, and on 27 September -2360, Julian day 859,338. In each case the difference between the Mayan day and the Julian day is equal to 584,283, which also proves that the Mayan calendar of 5125 years had really started on 6 September -3113.

The calendar of 5164 years represented 260 Katuns of 7254 days each, or 1,886,040 days, or 260 conjunctions of Jupiter and Saturn, or 2418 of Mars and the Sun. This calendar had started on 16 August -3164, which was the Julian day 565,635, and it will end on 10 May 2000, which will be the Julian day 2,451,675, during a spectacular conjunction of Mars, Jupiter and Saturn behind the Sun, which has been announced four hundred years ago by the French astrologer Nostradamus in his quatrain 9-83.

These two great calendars can only coincide every 2,901,600 days, after 403 Katuns of the first, or 400 Katuns of the second. They have exactly coincided on 9 January 1047, Julian day 2,103,483, when Jupiter and Saturn were in conjunction behind the Sun. They almost coincided twice, between 18 July and 5 August -1595,and between 13 June and 29 September 1086. The difference between the first dates of each coincidence, which is 979,200 days, represents 135 conjunction cycles of Jupiter and Saturn of 7253 1/3 days which were used by the ancient Hindus of the Indus valley. The difference between the last dates of each coincidence, which is 979, 290 days, represents 135 conjunction cycles of 7254 days used by the ancient Mayas in Mexico, several thousand years ago.

Most of the time, the conjunctions of Jupiter and Saturn do not occur on the exact date indicated by one or the other of these two calendars, but their intervals often represent exact multiples of the 7200 or 7254 day cycles. For example, conjunctions with the Sun of the five planets Mercury, Venus, Mars, Jupiter and Saturn have been observed on 28 August -1852 and on 10 April 849. The interval between these dwo dates is 986,400 days, which represents 137 Katuns of 7200 eays each, or 6850 conjunction cycles of Mercury and Venus of 144 days each. This could explain the Katuns of 7200 days of the 5125-year calendar, which was based on these conjunctions.

For the 5164-year calendar, I found the dates of 26 March 1345 and 26 January 1643. These two dates are separated by an interval of 108,810 days which represents 15 Katuns of 7254 days, or 186 Venus cycles of 585 days each, or fifteen conjunctions of Jupiter and Saturn. However, these astronomical dates did not exactly coincide with the dates of the two calendars, since the astronomical conjunctions periods of these planets are 144.564, 583.921 and 7253.445 days, and the calendars had to be adjusted from time to time to remain in phase with the astronomical phenomena. This explains the differences of 228 days in the first and 107 days in the second.

A similar adjustment was made in 1582 by Pope Gregory when he decided that the 5 October of the Julian calendar would become the 15 October of the new Gregorian calendar,so that the following spring equinox would again fall on 21 March 1583 as it was supposed to do. It probably was the only important decision of that pope who reigned for only thirteen years and died two years later anyway. The Gregorian calendar, more precise than the Julian one, is made up of 400 years of 365.2425 days, or 146,097 days, which is still too long by three days over a period of ten thousand years.

We have seen before that heliacal risings of Jupiter had been observed by Mayan astronomers on 12 August -2586 and 27 September -2360. The interval of 82,593 days between these two dates exactly represents 207 synodic cycles of Jupiter or 399 days each. These dates certainly were important steps of another great calendar of 1,867,320 days, or 260 Katuns of 7182 days, each representing 18 Jupiter cycles of 399 days, or 19 Saturn cycles of 378 days. Ancient Hindus of the Indus valley had also computed a similar calendar of 308,448 days representing 816 Saturn cycles, or 378 conjunction cycles of Mars and Jupiter of 816 days each.

This great Mayan cycle represents a mathematical achievement. At first, Mayan astronomers had computed that it represented 4680 Jupiter cycles, or 4940 Saturn cycles, but after several hundred years they noticed that the real Jupiter cycle was slightly shorter and that the Saturn cycle was slightly longer. That was when they had the bright idea of counting one more cycle for Jupiter and one less for Saturn. That way they obtained Jupiter cycles of 398. 915 days and Saturn cycles of 378.076 days, two synodic periods which are very close to those used by modern astronomers.

The Mayans also obtained 399 cycles of 4680 days representing six cycles of Mars, or eight of Venus, found everywhere in the Dresden Codex, which is the classical astronomy book of the Mayas. However, a calendar representing 258 conjunctions of Jupiter and Saturn was not very practical for Mayan astronomers who counted everything by thirteen or twenty. Having observed that the average interval between two conjunctions was 7254 days, they adopted the calendar of 1,886,040 days, which we have already mentioned.

Mayan astronomers also had a great calendar of 1,892,800 days representing 260 Katuns of 7280 days, or 5200 lunar years of 364 days, and 10,920 eclipse cycles, or 64,096 synodic cycles of the Moon. They had also noticed that the conjunctions of Jupiter and Saturn occurred behind the Sun every 355,408 days, or 973 years, as it happened in -1892 and -919, in 54 and 1027, and as it will happen on 10 May 2000 at twenty degrees of Taurus, as Nostradamus has announced. From that observation, they had computed another calendar made up of 891 synodic cycles of Jupiter, 940 of Saturn, and 49 conjunction cycles of these two planets. It therefore appears that Mayan astronomers had not one, but several different calendars based on the relative motions of the planets. (Continued on next page)

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Mayan astronomers probably knew the existence of the planet Uranus, which is often visible with the naked eye during its conjunctions with the Earth every 370 days. The Dresden Codex contains many time periods of 702 days,which certainly correspond to the conjunction period of that planet with Mars of 702.713 days, and time periods of 14,040 days which represent 18 cycles of Mars, 20 of Uranus, or 24 of Venus. As a matter of fact, the calendar of 1,867,320 days is an exact multiple of these two cycles, which is another confirmation of its existence in the Mayan chronology.

Mayan astronomers had also discovered the great cycle of the transits of Venus in front of the Sun which can also be found in the Dresden Codex. That cycle of 88,756 days represents 243 years or 152 passages of Venus in front of the Sun. The best known of these transits are those of 6 June 1761 and 4 June 1769, the last one observed in Tahiti by the famous Captain Cook. The next two transits will occur on 8 June 2004 and 6 June 2012. These ancient astronomers probably knew the exact duration of the synodic cycle of Venus, but in their calendars,they used the more practical numbers of 584 or 585 days which could coincide with those of 365 for the Sun or 780 for Mars.

As for the Moon, the Mayas knew that 44 lunar months lasted 1300 days and that 405 months made 11,960 days. They also had a short calendar of 27, 759 days representing 76 years or 940 months, and a long one of 421,490 days representing 1154 years or 14,273 months. For the eclipses, they knew that three eclipse cycles made 520 days, and they knew the cycle of coincidence between 93 solar years and 98 lunar years, as well as that between 521 solar years and 549 lunar years, which was known by the Sumerians, and after which the same solar eclipse occurs automatically on the same day of the year and on the same point on the zodiac. Mayan astronomers also knew the Saros cycle of 6585 days, the Meton cycle of 6940 days, and the lunar standstill cycle of 6800 days between extreme moon rises north or south of the east.

However, there still exists in the Mayan chronology another problem to be solved, for which many different solutions have been proposed. It is generally accepted that the 5125-year calendar must have started on a day 1 IMIX - 1 POP, but nobody so far has been able to determine the day of the Julian calendar which corresponds to a certain day 4 AHAU - 8 CUMKU, which was at the same time the beginning of a solar year and that of a Mayan year, and also was a very important historical or astronomical date.

Each day of the Mayan chronology was defined in the year of 260 days by a certain number and a certain name, such as 1 IMIX, or 4 AHAU, for example, and in the year of 360 days by another number and another name, such a 1 POP, or 8 CUMKU, for example. It was therefore necessary to wait 93,600 days, or 256.2683 solar years, to have the same day again at the beginning of 260-day and 360-day years, and it took 41 of those cycles to coincide with 10,507 solar years of 365.2422 days each.

As one can see, Mayan astronomers had to wait for 10,507 years to see a day that would be at the same time the first day of a solar year, of a 260-day year, and of a 360-day year. Egyptian astronomers had probably made the same calculations because the number 41 was for them a sacred number that can be found in the dimensions of the Cheops and Chephren pyramids measured in feet of 375 mm. Moreover, in the Cheops pyramid, the Chamber of the Queen and that of the King are 41 and 82 cubits of 525 mm above the base. Also, 82 days represent three sidereal months of the Moon.

A day 4 AHAU is the day 160 of a 260-day year starting on a day 1 IMIX, and a day 8 CUMKU can be considered as the day 350 of a year of 360 days starting on a day 1 POP. To determine the day of the Julian calendar which corresponds to the Mayan day 4 AHAU - 8 CUMKU, we have to calculate, after the starting date of the 5125-year calendar, a certain number of days which would be at the same time a multiple of 360, a multiple of 260 plus 160, and a multiple of 365.2422 plus 350. The smallest number which fulfills those three conditions is 678, 240. If we add that number to 584,283, Julian starting date of the calendar, we obtain the Julian day 1,262,523 which was 7 August -1256 in our calendar.

And that day was a very special one, not only because Jupiter and Saturn were in conjunction, but also because that conjunction occurred right in the middle of the zodiac at the longitude 180, or zero degree of Libra. That is a very rare astronomical phenomenon that can only occur every 768,865 days after 2105 sidereal years, or 106 conjunctions of Jupiter and Saturn. Since we know that these two planets were very important for Mayan astronomers, it seems almost certain that the last day 4 AHAU - 8 CUMKU was on 7 August -1256.

Some authors think that the date of 6 September -3113 could have been a day 4 AHAU - 8 CUMKU. That seems to me difficult to believe because in that case, we would have to go back in the past to 28 October -11763, Julian day -2,575,077, to find a day 1 IMIX - 1 POP which was at the same time the first day of a solar year, of a 260-day year, and of a 360-day year. That however is not impossible since we have found dates of -11654 among the Hindus and -11540 among the Egyptians which are about as old and could correspond to a period of cataclysms and calculation of new and more sophisticated astronomical calendars around the world.

There still are three more mysteries in the chronology of the Mayas. The first mystery is that of the Grolier Codex. It was believed that only three sacred Mayan texts had survived the fire of Diego de Landa, Bishop of Yucatan, who believed that they had been written by Satan. These texts were the Paris Codex, the Madrid Codex, and the Dresden Codex. Then a fourth codex appeared in New York in 1970 under the name of Grolier Codex and of unknown origin. And, as I had done for the three others, I tried to decipher it in order to find out if it contained more information about the Mayan chronology.

It took me some time to discover that the Grolier Codex represented a great calendar of 1953 cycles of 1352 years of 365 days each, or an enormous period of time of 963,766,440 days, or 2,640,456 years, which was an exact multiple of the Mayan cycles of 4680, 7254 and 37,960 days, which we have already mentioned. It could therefore be considered as another astronomical constant of the solar system, similar to the Nineveh Constant of 2268 million days, or 6,300,000 years, of the Sumerians.

The second mystery is that of the disk of Chinkultic, which was discovered in the ruins of that archaeological site in Mexico. That disk represents a ball player surrounded by unknown hieroglyphs and the six numbers 9, 7, 17, 12, 14 and 11, in Mayan numeration. That disk is a mystery because the date is indicated by six numbers instead of the usual five. The number 9, which should not be there, probably represents a number of great cycles of 1,872, 000 days and, in that case, it would indicate a date of 17,983,011 days, or 49,236 years after the beginning of the first great cycle on 15 May -49240, Julian day -16,263,717. And that day would have been 4 March -5. That explanation would be logical since the Greek historian Diogenes Laertius tells us that the chronology of the Egyptians had started in the year -49219, 21 years later. It appears that both chronologies could have started at the same time on both sides of the Atlantic Ocean after some cataclysm of cosmic or terrestrial origin, which would have required the calculation of new astronomical calendars.

The third mystery is that of the inscriptions of Copan and Quirigua. It has been found on a stela of

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Copan, in Honduras next to the Guatemala border, an inscription representing 5.239 million years of 360 days, or one thousand Mayan great cycles of 260 conjunctions of Jupiter and Saturn, almost as long as the Nineveh Constant of the Sumerians. It has also been found, on a stela in Quirigua, in Guatemala next to the border of Honduras, another inscription representing 403 million years of 360 days each, or twenty million conjunction cycles of Jupiter and Saturn, or 31 million cycles of Mercury, Venus and Mars. That fantastic number of years could represent the time elapsed since the apparition of man on the surface of the Earth, since that extraordinary event seems to have occurred in Africa about 400 million years ago.We now have to discover how it could have been known by the Mayas who were living in America.

In addition to astronomical and chronological data, the Dresden Codex also indicates the measuring system used by the Mayas who wrote it. The Dresden Codex consists of 39 pages folded like a fan, or an accordion, with illustrations on both sides, which makes a book of 78 pages. The pages are 21 cm high and 9 cm wide, which represents a total length of 351 cm when the book is unfolded (or 360 cm with the missing front page). This indicates a measuring system of 54 cm for the cubit, 36 for the foot, 9 for the hand, 2 1/4 for the inch, and 1 1/2 for the finger. The size of each page was therefore, 14x6 fingers and the total length of the book was 39 hands, or 234 fingers.

These measuring units have been used for a long time around the world, along with other units which also are exact fractions of one meter and therefore related to them. For example, an ideal unit length of 12,600 m would represent an exact number of each of twelve different feet used by our ancestors in different countries. In millimeters, these are the feet of Mykenos of 277.777, Danube of 280.000, Angkor of 291.666, Rome of 296.296, Egypt of 300.000, Babylon of 308.642, Baalbek of 333.333, Egypt of 350.000, Mexico of 352.753, France of 357.143, Maya of 360.000 and Egypt of 375.000.

In the same order, a unit length of 12,600 m would represent the following numbers of feet: 45,360, 45,000, 43,200, 42,525, 42,000, 40,824, 37,800, 36,000, 35,719, 35,280, 35,000 and 33,600. This of course does not prove that our ancestors knew the metric system, which is now used all over the world, but it certainly proves that they knew the dimensions of the Earth and had developed an international measuring system which was very similar to it. The most amazing fact is that four of these ancient feet have been found in Europe, three in Africa, three in Asia, and two in America,which seems to indicate that these different civilizations had a common origin.

The Mayan square foot of 0.1296 m^2 can be found in Uxmal, Mexico, where the Palace of the Governor was built on a huge platform of 160,000 square feet, or 20,736 m^2. This area has been estimated by some archaeologists at exactly 20,000 m^2, which had given them a square foot of 0.125 m^2 corresponding to a linear foot of 353.553 mm, which is very close to the length from the Dresden Codex and possibly correct.

The Mayan cubic foot of 0.046656 m^3 can also be found in the sarcophagus of the Pyramid of Cheops in Egypt, which has an internal volume of 1.1664 m^3 and an external volume of 2.3328 m^3, which respectively represent 25 and 50 Mayan cubic feet. Since we know that there are many similarities between the Pyramid of Cheops in Egypt and the Pyramid of the Sun at Teotihuacan in Mexico, it would not be surprising if the Sun Pyramid had also been built with the Mayan cubic foot. In that case, its original volume of 1,036,800 m^3 would have represented exactly 22,222,222 Mayan cubic feet or 40% of the volume of the Pyramid of Cheops or 2,592,000 m^3, which would be another strange coincidence.

NEOLITHIC MATHEMATICS

BY CARL P. MUNCK*

For a few centuries now, people have wondered about the purpose of the many thousands of geometric and mathematical displays which were left upon our planet by the ancients. Almost without exception, such things as the Great Pyramid, Stonehenge, the pyramids and temple mounds of the West and even the curious markings on the Plain of Nazca in Peru, defy explanation.

In our attempts to understand them we have concentrated upon the primitive artifacts which have been found either within or in close proximity to such ancient works and have formed existing opinions accordingly.

But, when it comes to considering such displays for what they present, namely mathematics, no one has bothered to do so. In logic, the ancients were clearly asking us to question the mathematical relationships of these mathematical constructions, that is to say, they hoped that we would ask just why these structures were built precisely where they were built.

For some reason, which I have yet to understand, people are afraid of mathematics. Could it be boring? But, in order to solve any problem in the realm of pyramids, ancient circles and the like, it requires far more than the gathering and studying of artifacts. It requires mathematical exploration, distasteful as it might seem.

Actually, the process can be simple. For example, anyone could compute the following equation:

120.0666667 : 38.66 = 3.1057

Another equation which furnishes the identical answer is:

121.204444 : 39.0261111 = 3.1057

Why did I select these particular factors in order to find the common answer? I didn't. The ancients did!

120.0666667 is the number of degrees of longitude which separate Mississippi's Nanih Waiya temple mound from the Great Pyramid at Giza in Egypt.

38.66 degrees is the north latitude of Woodhenge Circle No. 2 at Cahokia in Illinois, USA. Woodhenge is also 121.204444 degrees of longitude to the west of the Great Pyramid.

39.0261111 degrees is the North Latitude of the well-known Serpent Mound in Ohio, USA.

The answer to the double-circle cross at Nazca (see Ancient Skies 15:1) as well as any other such geometrical display, is keyed to the mathematical process. All are linked to latitude and longitude; latitude bearing upon the equator, of course, and longitude from the very ancient Prime Meridian marked by Egypt's Great Pyramid, and all from a people who, many thousands of years ago, knew the geodetical aspects of our planet at least as well as we do. If anyone has the coordinates of the Nazca double-circle cross, precise to its very center, we can solve its mystery.

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FINAL CALL for the Ancient Astronaut Society Member Expedition to China and Tibet for April, 1989. Registration closes January 19, 1989.

REGISTER NOW for the Ancient Astronaut Society's 16th Anniversary World Conference to be held on August 25, 26 and 27, 1989 in Chicago.

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